

TSITSVASHVILI, Sh.I.

Influence of a forced rise of air on the vertical stability of the atmosphere. Meteor. i gidrol. no.5:47-52 My '65.

(MIRA 18:4)

1. Zakavkazskiy nauchno-issledovatel'skiy gidrometeorologicheskii institut.

TSITSILASHVILI, G. N.

FA 51T70

USSR/Mines

Mining Methods

Roofs

Mar 1948

"Controlling Roofs in Cleaning Cuts of the Chiaturak Mines," G. N. Tsitsilashvili, Mining Engr, 2½ pp

"Gornyy Zhur" No 3

Describes various methods of roofing support and mining development used at Chiaturak. Illustrates the use of emergency supports (S.U.R.S.), and explains how use increases work productivity.

LC

51T70

TOMBERG, S., starshiy inzh.; TSITSIASHVILI, M., inzh.

New loading and unloading techniques used in Leningrad's harbor.
Mor. flot 19 no.2:28-33 F '59. (MIRA 12:3)

1. TSentral'noye proyektno-konstruktorskoye byuro po portam.
(Leningrad--Harbor) (Loading and unloading)

TSITSIAHVILI, Sh.I.

Problem of so-called heboid psychopathia. Sud.-med.ekspert. 3
no.1:50-54 Ja-Mr '60. (MIRA 13:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut sudebnoy
psikhiatrii imeni V.P. Servskogo (dir. - dotsent G.V. Morozov).
(SCHIZOPHRENIA)

TATSIASHVILI, Sh. I., Cand Med Sci -- (diss) "Clinic, course and ~~psychiatric~~ ~~jurisprudential~~ evaluation of the simple form of schizophrenia." Mos, 1958, 15 pp (Second Mos State Med Inst im N.I. Pirogov) 220 copies (KL, 27-58, 118)

- 227 -

GERTSRIKEN, S.D.; TSITSILIANO, D.D.

Investigating self-diffusion in silver by the method of the
boundary problem: Fiz. met. i metalloved. 6 no. 1:89-94 '58.
(MIRA 11:8)

1. Kiyevskiy gosudarstvennyy universitet.
(Silver)
(Diffusion)

SOV/126-6-1-11/33

AUTHORS: Gertsriken, S. D. and Tsitsiliano, D. D.

TITLE: Self-Diffusion in Silver Studied by Tracer Methods
(Issledovaniye samodiffuzii v serebre metodom
konechnoy zadachi)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 1,
pp 89-94 (USSR)

ABSTRACT: Ag¹¹⁰ is deposited on one side of annealed silver foil 25-40 μ thick by electrolysis; diffusion is done in vacuo with two specimens with their active sides turned inwards pressed together. The residual Ag¹¹⁰ is then measured from the γ -ray emission (some silver evaporates). The foil is sampled by electrolysis, from the active side, until all activity is removed. Table 2 shows the results obtained, Table 1 being an auxiliary table for the parameters involved. Fig.2 and Table 3 summarize the results; Table 4 compares these results with those given by others, and the agreement is found to be good. The method has the advantage of being rapid even at low

Card 1/2

SOV/126-6-1-11/33

Self-Diffusion in Silver Studied by Tracer Methods

diffusion rates. The result can be represented as
 $D = 1.084 \exp(-44,800/RT) \text{ cm}^2/\text{sec}.$

There are 2 figures, 4 tables and 5 references, 3 of which
are Soviet, 2 English.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet
(Kiyev State University)

SUBMITTED: July 6, 1956

Card 2/2

1. Silver--Diffusion
2. Silver--Electrodeposition
3. Silver--Electrolysis

GERTSRIKEN, S.D.; TSITSILIANO, D.D.

Analysis of self-diffusion in silver and in its alloys by means of
the finite problem. Nauk po vid. KDU no.1:30-32 '56. (MIRA 11:4)
(Silver alloys) (Diffusion)

GERTSRIKEN, S.; TSITSILIANO, D.

Determining the absolute value of the self-diffusion coefficient
along grain boundaries and boundary width. Issl. po zharopr. splav.
3:161-167 ' 58. (MIRA 11:11)
(Crystal lattices) (Metal crystals) (Diffusion)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757120008-0

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757120008-0"

RUDICH, Sergey Ivanovich, kand.tekhn.nauk; TSITSILIANO, Denis Denisovich,
kand.tekhn.nauk; NAGORNIY, A.G. [Nahorny, A.H.], red.;
CHEREVATSKIY, S.A. [Cherevats'kyi, S.A.], tekhn.red.

[Mechanization of the procurement and placement of local
fertilizers] Mekhanizatsiia zahotivli ta vnesennia mistsevykh
dobryv. Kyiv, Derzh.vyd-vo sil's'kohospodars'koi lit-ry URSR,
1961. 150 p. (MIRA 15:5)
(Ukraine--Fertilizers and manures)

PETROVA, K.; TSITSIN, F.

Sixth cosmogonic conference. Vest. Mosk. un. Ser. nat., tekhn.,
astrof., fiz. khim., 12 no.5:233-237 '57. (MIRA 11:9)
(Cosmogony--Congresses)

TSITSIN, F. A.

AID - P-64

Subject : USSR/Astronomy
Card : 1/1
Author : Tsitsin, F. A.
Title : A Simple Solution of V. G. Fesenkov's Theorem
Periodical : Astron. zhur., V. XXXI, 1, 80, Ja - F 1954
Abstract : The theorem of V. G. Fesenkov (1940), assumes that if the surfaces of stellar density in the Galaxy are similar and distributed on ellipsoids of rotation occupying similar positions, then the galactic concentration is equal to $(A/C)^3$, where A and C are the large and small semi-diameters of the Galaxy respectively. Simple mathematical reasoning proves the theorem. One graph and two Russian references are given.
Institution : Department of Stellar Astronomy, Moscow State University
Submitted : July 1, 1953

TSITSIN, F.A.

Direction of rotation of spiral galaxies. Astron.tsir.no.157:
10-12 F'55. (MIRA 8:10)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga.

(Stars--Clusters)

TSITSIN, P.A.
MIKISHA, A.M.; TSITSIN, P.A.

Some problems in the theory of the galactic potential. Astron. zhur.
33 no.6:885-889 N-D '56. (MLRA 10:1)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga.
(Stars—Distribution) (Milky Way)

TSITSIN, F.A.

25-8-41/42

AUTHOR: Tsitsin, F.A., Scientific Collaborator of the State Astronom-
ic Institute imeni Shternberg

TITLE: The Comet Arenda-Rolana (Kometa Arenda-Rolana)

PERIODICAL: Nauka i Zhizn', 1957, # 8, p 63 (USSR)

ABSTRACT: In April 1957, a faintly illuminous celestial body could be observed in the north-western sky. This was the comet Arenda-Rolana, discovered by Belgian astronomers in the fall of 1956. After several months of observation, it was established that this comet approaches the sun more closely than any other comet and 3 times closer than the Earth, at a distance of about 50 million km. The work done by foreign and Russian observatories disclosed that this comet possesses, apart from the ordinary train a second, long and thin tail going in the opposite direction. The appearance of this comet took many astronomers by surprise, because comets approaching the sun periodically have already been studied and their movements are generally known. It is believed that the Arenda-Rolana probably approached the sun about one thousand years ago and afterwards nothing more was seen

Card 1/2

The Comet Arenda-Rolana

25-8-41/42

or heard about it.

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Mikisha, A. M. and Tsitsin, F. A.

TITLE: On the distribution of mass in the Galaxy. (K voprosu o raspredelenii mass v galaktike).

PERIODICAL: Astronomicheskii Zhurnal, 1957, Vol.34, No.1, pp.45-54. (USSR).

ABSTRACT: A method for the determination of the mass distribution in the Galaxy has been given and discussed by Lindblad (1) and Parenago (2). Since neither "rigid rotation" (homogeneous spheroid; force in the galactic plane directly proportional to distance from the centre), nor "Keplerian rotation" (all mass concentrated in the nucleus; force in galactic plane inversely proportional to distance from the centre) are realised in the Galaxy, the above workers concluded that part of the mass is concentrated in the nucleus and the rest is distributed in the Galaxy (uniformly, in the first approximation). Assuming this, they try the following law of force:

$$F = F_1 + F_2 = \alpha R^{-2} + \beta R.$$

It is now pointed out that the above law is not an empirical one but results from the adoption of the particular model of the Galaxy. In their later work Lindblad and Parenago abandon, in fact, the above model and calculate not the mass of a homogeneous spheroid but the mass of a homogeneous flat disc. The correct formulation of this problem, i.e. the determination of the mass of a uniform spheroid, is given in this paper.

On the distribution of mass in the Galaxy. (Cont.)

The following symbols are used: δ - density of the nucleus, R_0 - distance of the sun from the centre of the Galaxy, R_G - radius of the Galaxy, G - gravitational constant, m_1 - mass of the nucleus, M - mass enclosed within a sphere of radius R_0 , m_2 - mass of the Galaxy without the nucleus, m - general mass of the Galaxy (with nucleus), F_0 - force at a distance R_0 , F_0' - derivative of the force, ρ_0 - density determined at a distance R_0 , and μ_1 and μ_2 - parameters to be determined.

Initial distribution. A spherically symmetrical heterogeneous system is fully determined when the density $\rho(R)$ is given. The four equations (4) and (8) may be solved for the four unknowns ρ_0 , δ , μ_1 , μ_2 , if a functional form is assumed for $\rho(R, \mu_1, \mu_2)$. It has been shown by Kukarkin and Parenago that

$$\rho(R, \mu_1, \mu_2) = \mu_1 \exp(-\mu_2 R)$$

Assuming this form and putting

$$r = 1.5 \text{ Kparsecs}; R_0 = 7.2 \text{ Kparsecs}; R_G = 13 \text{ Kparsecs};$$

$A = 19.5 \text{ Km/sec/Kparsecs}; B = -13 \text{ Km/sec/Kparsecs}$
one obtains (as a result of the solution of (4) and (8)):

$$m_1 = 0.61 \times 10^{10} \text{ sun masses}$$

$$m_2 = 10.7 \times 10^{10} \text{ sun masses}$$

On the distribution of mass in the Galaxy. (Cont.)

Homogeneous model. Taking a homogeneous model for the above initial heterogeneous distributions, equations (10), (11), (12), lead to:

$$m_1 = 0.72 \times 10^{11} \text{ sun masses}$$

$$m = 1.79 \times 10^{11} \text{ sun masses}$$

It may be shown, using equation (8), that

$$\rho(R_0) = \rho_0 = 7.96 \times 10^{-25} \text{ gm/cc.}$$

This is seven to eight times less than the observed value in the Solar Vicinity. This indicates that the density distribution is far from being spherical.

The quantity μ_2 is equal to $-\frac{d}{dR} (\ln \rho)$ (see eq.9).

In the initial distribution, it turns out to be $0.63 \text{ Kparsec}^{-1}$, which leads to

$$-\frac{d}{dR} (\lg \rho) = 0.27 \text{ Kparsecs}^{-1}$$

Observational data for this quantity are :

$$\begin{array}{l} 0.25 \div 0.27 \text{ Kparsecs}^{-1} \text{ (spherical component)} \\ 0.11 \div 0.16 \text{ Kparsecs}^{-1} \text{ (plane component)} \end{array}$$

The agreement of the numerical value of the logarithmic gradient of density in the galactic plane with observed value for stars of the spherical component suggests that dynamic influence of the component is higher than is usually assumed.

On the distribution of mass in the Galaxy. (Cont.)

Next, it is supposed that the initial distribution is an heterogeneous spheroid. Here it was assumed that

$$r = 1.5 \text{ Kparsec}; \quad R_0 = 8 \text{ Kparsec};$$

$$A = 19.5 \text{ Km/sec Kps}; \quad B = -13 \text{ Km/sec/Kps}.$$

The symbols used are: r - radius of the equatorial section of the nucleus, R - radius vector in the equatorial plane of the spheroid, M - mass enclosed within a spheroid of major semi-axis R_0 , e - eccentricity of the meridian section of the spheroid, and $e = \sqrt{1 - e^2}$.

The parameters M_1 , M_2 , δ and e are obtained from the set of equations (14), where $F_1(R)$ and $F_2(R)$ are the attractive forces due to the nucleus and the spheroid respectively. The attraction due to an heterogeneous spheroid with the nucleus removed, $F_2(R_0)$, is then written down in the form of an integral. The latter is replaced by a sum of finite terms to simplify calculations, and the four equations (14) are solved for M_1 , M_2 , δ and e . This leads to the following:

$$\begin{aligned} e &= 1/7.1 \\ M_1 &= 3.47 \times 10^9 \text{ sun masses} \\ M_2 &= 1.26 \times 10^{11} \text{ sun masses} \end{aligned}$$

Thus, the mass of the nucleus is 2.75% of the total mass of the initial heterogeneous spheroidal distribution.

On the distribution of mass in the Galaxy. (Cont.)

If the above initial distribution is represented by a homogeneous model, i.e. a homogeneous spheroid of the same with a nucleus, then

$$m_1 = 0.70 \times 10^{11} \text{ sun masses}$$

$$m = 1.24 \times 10^{11} \text{ sun masses}$$

Here the mass of the nucleus is 56.5% of the total mass.

Thus the attempt to represent a heterogeneous spheroidal distribution by a homogeneous model leads to an over-estimation of the mass of the nucleus by a factor of twenty!

The method used above for the model of a heterogeneous spheroid with constant ϵ , may be used to construct a model which will correspond (approximately) to a real Galaxy. In this, the Galaxy is considered as consisting of a homogeneous spheroidal nucleus and of a spheroid of variable density. The latter spheroid is conditionally divided into two spheroidal parts, one inside the other, the two parts being separated by a spheroidal layer through the sun ($R_s = 8 \text{ Kps}$). Here ϵ is taken as variable in the inner spheroid and constant for the outer one. This allows one to disregard the contribution due to the dividing layer which passes through the sun. Thus $\epsilon = \epsilon(R)$, where

$$\begin{aligned} \epsilon &= \epsilon_R = \text{constant.} & (R \leq r) \\ \epsilon &= aR + b & (r \leq R \leq R_0) \end{aligned}$$

On the distribution of mass in the Galaxy. (Cont.)

$$\epsilon = \epsilon_0 = \text{constant} \quad (R \gg R_0)$$

$$a = \frac{\epsilon_0 - \epsilon_r}{R_0 - r} ; \quad b = \frac{\epsilon_r R_0 - \epsilon_0 r}{R_0 - r} ; \quad \epsilon_r = 1/2$$

The following values are then obtained:

$$\rho_2 = 1.07 \times 10^{-22} \text{ gm/cc.}$$

$$-\frac{d}{dR} \lg \rho = 0.16 \text{ Kps}^{-1}$$

$$\epsilon_0 = 1/9$$

$$\epsilon(R) = -0.0598R + 0.5897 \quad (r \leq R \leq R_0)$$

$$\rho_1 = 1.07 \times 10^{-22} \text{ gm/cc}$$

$$\delta = 0.62 \times 10^{-22} \text{ gm/cc}$$

$$m_1 = 0.64 \times 10^{10} \text{ sun masses}$$

$$M = 1.87 \times 10^{11} \text{ sun masses}$$

Thus, m_1 is 3.5% of the general mass. It is pointed out that in the case of a homogeneous spheroidal model the figure was 60% (a factor of 17).

Results of the present paper are summarised in the Table on p.54. Column headings: Number (I), Model (II), logarithmic gradient of density $\frac{d}{dR} (\lg \rho)$ (Kps⁻¹) (III), Mass of nucleus m_1 (sun masses) (IV), General mass of Galaxy M (V), Relative mass

On the distribution of stars in the Galaxy. (Cont.
of nucleus $\alpha = \frac{m_1}{m}$ (VI), Over-estimation of the relative
mass of the nucleus due by assuming homogeneous model
 $\frac{\alpha_{hom}}{\alpha}$ (VII), e (VIII).

In column (II); Row 1: Heterogeneous sphere with
spherical homogeneous nucleus; Row 2: Heterogeneous spheroid
with a spheroidal homogeneous nucleus ($e = \text{const.}$); Row 3:
Heterogeneous spheroid with spheroidal homogeneous nucleus
(e variable).

Column VII in the above table indicates that the
homogeneous model cannot be assumed even as a rough
approximation. Model No. 3 leads to an estimation of the
mass of the Galaxy and its nucleus, of the density in the
galactic plane, and the variation of the concentration of
matter in the galactic plane as a function of the distance
from the centre of the Galaxy. 2 Tables and 1 Figure.
7 references, 5 of which are Russian.

State Astronomical Institute
imeni P. K. Shternberg.

Recd. July 9, 1956.

AUTHOR: Mikisha, A. M. and Tsitsin, F. A.

33-4-19/19

TITLE: On the application of the Virial Theorem to the mechanics of stellar systems. (O primeneni teoremy o viriale v dinamike zvezdnykh sistem.)

PERIODICAL: Astronomicheskii Zhurnal, Vol.34, No.4, 1957, pp. 628-680 (USSR)

ABSTRACT: It is shown that in a system of material points which obey Newton's law of gravitation, and whose moment of inertia is a linear function of time (or a constant), the magnitude of the potential energy is equal to twice the magnitude of the kinetic energy.

It is claimed that this statement is more general than that given by Parenago ("Kurs zvezdnoi astronomii", 3rd ed., page 397). Parenago states that the relation

$$2T + \Omega = 0$$

holds for "stationary or linearly non-stationary systems".

The author gives an example where the system is non-stationary and the condition $I = \text{constant}$ is also satisfied (I is the moment of inertia). The Virial

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On the application of the Virial Theorem to the mechanics of
stellar systems. 33-4-19/19

Theorem as formulated by the author applies in this
case but in Parenago's formulation it does not.
There are no figures, tables or references.

SUBMITTED: January, 30, 1957.

ASSOCIATION: Sternberg State Astronomical Institute.
(Gos. Astronomicheskii In-T im. P. K. Shternberga)

AVAILABLE: Library of Congress

Card 2/2

TSITSIN, F. A.

25-2-36/43

AUTHOR: Tsitsin, F.A., Scientific Co-Worker of the State Astronomical
Institute imeni Shternberg

TITLE: Atalia (Ataliya)

PERIODICAL: Nauka i Zhizn', 1958, # 2, p 77 (USSR)

ABSTRACT: Atalia - a small planet, belonging to the family of
asteroids, was first discovered in 1903. It has a diameter
of 25 km and its light intensity is too weak to be seen with
the naked eye. For years Atalia disappeared from the firmament,
but was re-discovered in 1953.

ASSOCIATION: State Astronomical Institute imeni Shternberg (Gosudarstvenniy
Astronomicheskii institut imeni Shternberga)

AVAILABLE: Library of Congress

Card 1/1

VORONTSOV-VEL'YAMINOV, B.A.; DOKUCHAYEVA, O.D.; YEFREMOV, Yu.I.;
KOZARENKO, B.I.; KARIMOVA, D.K.; KOSTYAKOVA, Ye.B.; LOZINSKIY, A.M.;
MANOVA, G.A.; TSITSIN, F.A.; SHAROV, A.S.

Observations of Arend-Roland's comet (1956 h). Astron.tsir.
no.180:2-4 My '57. (MIRA 13:4)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shernberga,
Moskva.

(Comets--1956)

ACC NR: AP6010552

SOURCE CODE: UR/0026/65/000/011/0094/0101

AUTHOR: Tsitsin, F. A.

ORG: State Astronomical Institute im. P. K. Shternberg, Moscow (Gosudarstvennyy astronomicheskiy institut)

TITLE: Space and intelligent beings

SOURCE: Priroda, no. 11, 1965, 94-101

TOPIC TAGS: extraterrestrial life, interplanetary space, planetary satellite, probability

ABSTRACT: A critical philosophical examination of some existing theories and a series of arguments are presented by the author to support his viewpoint that life in the universe is not uncommon and to refute some existing concepts. The A. I. Oparin and V. G. Fesenkov book entitled "Life in the Universe", which states that only one of 10^5 - 10^6 stars may be the sun of a habitable world, is used as a basis for examining the methods of mathematical probability as they are used to predict the extent of life in the universe. The proposition of I. S. Shklovskiy that one of the satellites of Mars is artificial is examined in detail and refuted. In conclusion, the author speculates that the convergent evolution of independent civilizations and their carriers is most probable. Orig. art. has: 3 figures, 1 table.

SUB CODE: 03,12,06/

SUBM DATE: none/

ORIG REF: 004

UDC: 523.07

Card 1/1

MIKISHA, A.M.; TSITSIN, F.A.

Formula for relaxation time. Vest. Mosk. un. Ser. 3: Fiz.,
astron. 20 no.5:74-77 S-0 '65. (MIRA 18:11)

1. Kafedra zvezdnoy astronomii Moskovskogo universiteta.
Submitted June 1, 1964.

TSITSIN, F.A.

Cosmos and intelligent beings. Priroda 54 no.11:94-101 '65.
(MIRA 18:11)

1. Gosudarstvennyy astronomicheskii institut im. P.K.
Shternberga, Moskva.

TSITSIN, F.A.

Some problems affecting an axiomatic construction of the
dynamics of stellar systems. Trudy Astrofiz. inst. AN
Kazakh. SSR 5:211-218 '65. (MIRA 18:6)

TSITSIN, F.A.

Definition of the "volume" concept for systems of a corpuscular nature. Vest. Mosk. un. Ser. 3:Fiz., astron. 18 no.5:54-57 S-0 '63. (MIRA 16:10)

1. Kafedra zvezdnoy astronomii Moskovskogo gosudarstvennogo universiteta.

VORONTSOV-VIL'YAMINOV, Boris Alaksandrovich; KRASNOGORSKAYA, Alisa
Arkad'yevna; Prinimali uchastiye: TSITSIN, F.A.; PONOMAREVA,
G.A.; MAKAROV, A.N.; KUKARKIN, B.V., prof., otv.red.;
YERMAKOV, M.S., tekhn.red.

[Morphological catalog of galaxies. Part 1. Catalog of 7,200
galaxies with declinations from 90 to 45] Morfologicheskii
katalog galaktik. Chast' 1. Katalog 7200 galaktik ot
90 do 45 sklonenii. Moskva, Izd-vo Mosk.univ., 1962.
205 p. (Moscow. Universitet. Gosudarstvennyi astronomicheskii
institut. Trudy, vol.32). (MIRA 16:2)
(Galaxies—Catalogs)

DIBAY, E.A.; TSITSIN, F.A.; SHAROV, A.S.

Letter to the editor. Astron.zhur. 38 no.3:566 My-Je '61.
(MIRA 14:6)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(Stars—Clusters)

TSITSIN, F.A.

"Dynamics of stellar systems" by K.F.Ogorodnikov. Reviewed by
F.A.Tsitsin. Astron.zhmr. 37 no.6:1128-1130 N-D '60. (MIRA 13:12)
(Stars) (Ogorodnikov, K.F.)

DIBAY, E.A.; TSITSIN, F.A.; SHAROV, A.S.

Applying the virial theorem to the dynamics of star clusters.
Astron.zhur. 37 no.4:659-664 J1-Ag '60. (MIRA 13:3)

1. Gosudarstvennyy astronomicheskiy institut im.P.K.Shternberga.
(Stars--Clusters)

TSITSIN, F.A.

White nights. Nauka i zhizn' 27 no.7:79 J1 '60.

(MIRA 13:7)

1. Gosudarstvennyy institut imeni P.K. Shternberga. Moskva.
(Twilight)

S/033/60/037004/004/012

AUTHOR: Dibay, E.A., Tsitsin, F.A. and Sharov, A.S.
E032/E314

TITLE: On the Application of the Virial Theorem to the Dynamics
of Stellar Clusters

PERIODICAL: Astronomicheskii zhurnal, 1960, Vol. 37, No. 4,
pp 659 - 664

TEXT: The so-called virial theorem, which connects the potential
and kinetic energies of a stationary cluster, can be expressed
in the form:

$$2T + \Omega = 0 \quad (1) .$$

For a stellar cluster, the kinetic energy is given by Eq (2),
where m_i is the mass of a star, v_i is the velocity and
 r_{ik} the distance between stars i and k . Assuming, for
simplicity, that the stellar masses in the cluster are the same,
the potential energy is given by Eq (3), where $M = mn$ and
represents the total mass of the cluster and R is a mean of the
distances between the various stars and is given by Eq (4).

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S/033/60/037/004/004/012
E032/E314

On the Application of the Virial Theorem to the Dynamics of
Stellar Clusters

According to Ambartsumyan (Ref.1), \tilde{R} should be of the order of the radius of the cluster. Using Eq.(3), \tilde{R} can be written in the form given by Eq.(5). In order to calculate the potential energy, it is convenient to replace the discrete mass distribution by a continuous one and this does not introduce a large error if the number of stars is not too low. If the potential energy is defined as the energy necessary to remove all the stars to infinity, then the potential energy of spherically symmetric configurations is of the form given by Eq. (6) and hence the required expression for \tilde{R} is of the form given by Eq. (7). This formula can be used to calculate \tilde{R} for various models of stellar clusters. In the present paper, only those models are considered in which the density is finite in the centre and does not increase in the outward direction. For a uniform sphere in which the density is constant and independent of radius, $\tilde{R} = (5/6)a$, where a is the radius of the sphere. If the density varies according to

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S/033/60/037004/004/012

E032/E314

On the Application of the Virial Theorem to the Dynamics of Stellar Clusters

the law:

$$\rho(r) = \rho_0 (1 + r^2)^{-5/2}$$

then \tilde{R} is given by Eq.(9). Finally, if the density falls off exponentially with distance, then \tilde{R} is given by Eq.(10). \tilde{R}/a is plotted as a function of a in Fig. 1 for the last two models, respectively. The analysis is then applied to multi-layer distributions. For a two-layer distribution defined by:

$$\frac{a}{b} = \epsilon \leq 1 \quad \frac{\delta}{\rho} = \eta \leq 1,$$

where a and b are the radii and ρ and δ are the densities of the inner and outer zones, \tilde{R} is given by Eq. (11). Numerical calculations based on this formula are

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E032/E314

On the Application of the Virial Theorem to the Dynamics of Stellar Clusters

given in Fig. 2 and Table 2. In the case of a three-layer model, defined by:

$$\frac{b}{c} = m \leq 1 \quad \frac{\epsilon}{\rho} = \gamma \leq 1$$

where c and ϵ are the radius and the density of the third zone, respectively, \bar{R} is given by Eq. (12) and the corresponding numerical calculations are given in Table 3 and Fig. 3. It is concluded from these calculations that the quantity \bar{R} is usually 0.3 - 0.6 of the radius. Since it is usually assumed in the dynamics of stellar clusters that \bar{R} is equal to the radius of the cluster, the characteristics of clusters obtained from the Virial theorem must be altered in the light of the present results. The applicability of the Virial theorem to stellar clusters still remains an open question.

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S/033/60/037/004/004/012
E032/E314

On the Application of the Virial Theorem to the Dynamics of
Stellar Clusters

There are 3 figures, 3 tables and 5 references; 4 Soviet and
1 English.

ASSOCIATION: Gos. astronomicheskiy in-t im. P.K. Shternberga
(State Astronomical Institute im. P.H. Shternberg) ✓
SUBMITTED: November 16, 1959

Card 5/5

3(1)

SOV/25-59-2-42/48

AUTHOR: Tsitsin F.A. Research Assistant of the
Institute

TITLE: Observations of Mars (Nablyudeniya za Marsom)

PERIODICAL: Nauka i zhizn', 1959, Nr 2, p 77-78 (USSR)

ABSTRACT: The author gives a short account of some observations made of the planet Mars in 1956. According to most observers the atmosphere of the planet was by far less transparent than in other years. A thick haze did not permit observation of its surface. The numerous so-called canals, with the exception of fifty of larger size, could not be seen. Sometimes bright white spots and streaks appeared on the surface - snow, hoar-frost or mist. In early September an interesting phenomenon was observed; the southern polar cap disappeared for two weeks. Evidently, it was hidden behind a haze in the planet's atmosphere resulting from a

Card 1/3

Observations of Mars

SOV/25-59-2-42/48

dust storm. The investigations of the Soviet astronomer N.P. Barabashev have shown that the atmospheric part of the cap, which consists of light clouds pervious to infrared rays, was dispersed by the same storm. The astronomer N.N. Sytinskaya has established that the color of the dust particles was similar to the color of the continents. In this way it was possible to assume that this was really dust whirled up by the wind from the surface of the continents. The observations confirmed the circumstance already previously noticed by N.N. Barabashev, that the polar caps, evidently of reddish color, are neither compact nor half-transparent. The disturbed state of the Martian atmosphere at the time of opposition was also proved by swiftly moving, yellowish dust clouds thousands of kilometers long. Some of them could be

Card 2/3

Observations of Mars

SOV/25-59-2-42/48

observed for weeks. The atmospheric haze cleared up only at rare intervals, and only at these times did the view of the planet improve.

ASSOCIATION:

Gosudarstvennyy astronomicheskiy institut imeni Shternberga (State Astronomic Institute imeni Shternberg)

Card 3/3

TSITSIN, F.A.

~~TSITSIN, F.A.~~
The sixth conference on cosmogony. Vop. kosm. 6:361-367 '58.
(Cosmogony) (MIRA 11:10)

Voprosy kosmogonii, t. 6 (Problems in Cosmogony, Vol. 6) Moscow, Izd-vo AN SSSR, 1958. 367 p. 2,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Astronomicheskii soviet.

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REPORTS

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TSITSIN, M.A., inzh.

Electric power supply for the Kachkanar Mining and Ore Dressing
Combine. Izv. vys. ucheb. zav.; gor. zhur. 5 no.10:143-145
'62. (MIRA 15:11)

1. Sverdlovskiy sovet narodnogo khozyaystva. Rekomendovana
kafedroy gornoy elektrotekhniki.
(Kachkanar region--Electricity in mining)

LIPOV, Pavel Petrovich; TSITSIN, Mikhail Alekseyevich. Prinimala uchastiye
VESELKOVA, K.S., kand.tekhn.nauk; ABRAMOV, V.I., otv.red.;
GALANOVA, V.V., tekhn.red.; PROZOROVSKAYA, V.L., tekhn.red.

[Mining mechanic's handbook] Spravochnik mekhanika gorno-
rudnykh predpriatii. Izd.2., perer. Moskva, Gos.nauchno-
tekhn.izd-vo lit-ry po gornomu delu, 1961. 787 p.

(Mining machinery)

(MIRA 14:6)

TSITSIN, Mikhail Alekseyevich; ABRAMOV, V.I., red.izd-va; KONDRAT'YEVA,
M.A., tekhn.red.; BEREZSLAVSKAYA, L.Sh., tekhn.red.

[Mine electrician] Shakhtnyi elektroslesar'. Moskva, Gos.
nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 259 p.

(MIRA 13:8)

(Electricity in mining)

(Mining machinery--Equipment and supplies)

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 379 - I

BOOK

Call No.: AF-France 1953

Authors: LIPOV, P. P. and TSITSIN, M. A.

Full Title: HANDBOOK FOR MECHANICS OF ORE-MINING INSTALLATIONS

Transliterated Title: Spravochnik mekhanika gornorudnykh
predpriyatiy

Publishing Data

Originating Agency: None

Publishing House: State Scientific and Technical Publishing House
of Literature on Ferrous and Non-Ferrous Metals

Date: 1953

No. pp.: 1076

No. of copies: 13,000

Editorial Staff

Editor: None

Tech. Ed.: None

Editor-in-Chief: None

Appraiser: None

Others: A list of 16 names of those who took part in the editorial
work is given

Text Data

Coverage: This handbook contains technical data and characteristics
on equipment used in ore-mining enterprises, directions for its
choice and its calculation, and also information on its operation
and repair. The information, data and instructions appearing in this
book were compiled taking into account existing standards and opera-
tion and safety rules. Diagrams, graphs, tables, etc.

1/5

101 0117. 4. 11
Spravochnik mekhanika gornorudnykh predpriyatiy

AID 379 - I

This is a well-compiled handbook.

USSR/Diseases of Farm Animals - Diseases Caused by
Arachno-Entoms.

R-2

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54931.

Author : Tsitsin, N. B., Cherkasskiy, Ye. S.

Inst :

Title : Activated Creclin.

Orig Pub: Nauka i peredov. opyt v s. kh., 1957, No 7, 50-58.

Abstract: Activated creolin (AC), a homogenous mass with a 1.5-10 percent γ -isomer HChCH (hexachloro-cyclchexar), or containing DDT, or with both in any proportion mixed with water creates stable emulsions. The technological process is described and the advantages of manufacturing AC with 2 percent of γ -HChCH in a plant are pointed out. Scab mites are destroyed after a single submersion of sheep into a one-percent emulsion

Card : 1/3

USSR/Diseases of Farm Animals - Diseases Caused by
Arachno-Entoms.

A-2

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54931.

of AC with 0.12-0.15 percent of γ -isomer of HCH at 18° [°C]. AC has a prophylactic effect lasting for 6-9 months. More than 200 million sheep and other farm animals have been successfully treated with AC against scab mites and other parasites. After the fur was treated with a one-percent emulsion of AC (of sable, polar foxes, ermines, etc.), it remained mothproof for 3 years. AC is effective in combating warble flies and cattle ticks, and may be used in order to control malaria mosquitoes (Anopheles), flies and common parasites. In various concentrations, AC emulsion kills plant lice, mites, meal worms, stinkbugs in the covered ground; plant lice, caterpillars of the lilac moth, larvae of the thickwalled willow

Card : 2/3

9

USSR/Diseases of Farm Animals. Diseases Caused by Arachno-
Entoms.

R-2

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54931.

sawfly on fields; grain pests in grainairies; and in
the form of aerosol bombs it destroys various pests
of different arboreal species.

Card : 3/3

SHCHERBAKOVA, A.A., kand. biol. nauk, otvetstvennyy red.; TSITSIN, N.V., akademik; red.; SUKACHEV, V.N., akademik, red.; BAZILEVSKAYA, N.A., prof., red.; MEYER, K.I., prof., red.; BLYAKHER, L.Ya., prof., red.; ANTONYUK, L.D., red. izd-va; MARKOVICH, S.G., tekhn. red.

[Carl Linnaeus; a collection of articles] Karl Linnei; sbornik statei. Moskva, 1958. 257 p. (MIRA 11:9)

1. Akademiya nauk SSSR. Institut istorii, estestvoznaniya i tekhniki.

(Linne, Carl von, 1707-1778)

TSITSIN, N.V.

Charles Darwin and some problems of biology. Izv. AN SSSR, Ser.
biol. 24 no.6:832-838 N-D '59. (MIRA 13:4)

1. The Main Botanical Garden, Academy of Sciences of the U.S.S.R.,
Moscow.

(PLANT BREEDING)

TSITSIN, N.V., akademik; ZAGORODNYI, L.S.; SILEVA, M.N.

Greening seed potatoes before winter storage. Priroda 49
no.5:94-95 My '60. (MIRA 13:5)

1. Glavnyy botanicheskiy sad AN SSSR, Moskva.
(Seed potatoes)

30(1)
 AUTHOR: Tsitsin, N. V., Academician SOV/30-58-12-16/46

TITLE: International Meeting of Horticulturists (Mezhdunarodnaya
 vstrecha sadovodov)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 12, pp 64 - 68 (USSR)

ABSTRACT: The 15th International Congress of Horticulture, Vegetable
 Growing and Cultivation of Decorative Flowers was held in
 Nice (France) from April 11 to 18, 1958. It was attended
 by 666 delegates from 41 countries. The Soviet Union was
 represented by delegations of the VASKhNIL and the AS USSR.
 A total number of 170 lectures and reports were heard. The
 congress was held under the sign of the collaboration of
 science and practice. The author of this article held a
 lecture on hybridization ("telehybridization") in the theory
 and practice of horticulture. V. A. Rybin (USSR) reported on
 the method of resynthesis in plum cultivation. P. I. Lapin
 (USSR) spoke about the introduction of tree-shrub plants in
 Moscow. The delegates of the VASKhNIL reported on:
 D. D. Brezhnev on the state and the prospects of scientific
 research in the field of vegetable cultivation in the
 USSR.

Card 1/2

International Meeting of Horticulturists

SOV/30-58-12-16/46

V. V. Kolesnikov on results and prospects of research in the field of isotope application in fruit cultivation.
P. K. Ursulenko on biologic and physiologic foundations of fruit fertility of apple trees.

M. Yu. Gushchin on ways and methods of improving assortments of fruit and berry cultures in the UkrSSR.

The Soviet delegation visited the Scientific Agronomical Center in Versailles. An International Floricultural Show is to be held in Paris in May, 1959, in which the USSR will be represented. In its decisions, the congress underlined the necessity of intensifying research in the field of plant introduction. A recommendation was advanced to the International Society of Horticulture to establish a special committee for problems of plant introduction.

Card 2/2

AUTHOR: Tsitsin, N.V., Academician SOV-25-58-7-16/56
TITLE: Improving Varieties (Uluchshaya sorta)
PERIODICAL: Nauka i zhizn', 1958, Nr 7, pp 30-32 and p 34 (USSR)
ABSTRACT: In 1957 the Gosudarstvennaya komissiya po sortoispytaniyu (State Commission for the Testing of Seed Varieties) distributed (by districts) 20 varieties of bread grain, 28 of forage, 4 of corn, 8 of groats, 8 of oil-bearing plants, 2 of sugar-beets, etc. The introduction of high-yield varieties will result in richer crops and additional food for the Soviet population. Soviet selectionists and geneticists must still solve important tasks to boost yield and quality in agricultural production. There are 3 drawings.

1. Agriculture--USSR

Card 1/1

26-58-7-27/48

AUTHORS: Tsitsin, N.V., Academician; Rubenkov, A.A., Candidate of
Biological Sciences

TITLE: Distant Hybridization of Big-Horned Cattle (Otdalennaya
gibridizatsiya krupnogo rogatogo skota)

PERIODICAL: Priroda, 1958, Nr 7, pp 104-106 (USSR)

ABSTRACT: Cross breeding of local cattle strains with zebu bulls has
increased the fat content of the milk by 5%. The chosen
zebu strains, according to the data of V.K. Markov, had a
milk of up to 7 - 8% fat, 4.49% albumin, 17.23% dry sub-
stance, the caloricity equalling 1,100. Distant hybridi-
zation also brought about a substantial weight increase,
a higher amount of milk yield and an extended lactation
period.

Card 1/2 There are 4 photos.

Distant Hybridization of Big-Horned Cattle

26-58-7-27/48

ASSOCIATION: Nauchno-eksperimental'noye khozyaystvo "Snegiri" - Moskovskaya
Oblast' ("Snegiri" Scientific Experimental Husbandry -
Moscow Oblast,)

1. Cattle--Rearing--USSR

Card 2/2

TSITSIN, N.V.; LUNEVA-NAZAROVA, M.Z.

Biological and economic characteristics of the hybrid tomato No.258.
Biul. Glav. bot. sada no.51:36-40 '63. (MIRA 17:2)

1. Glavnyy botanicheskiy sad AN SSSR.

TSITSIN, N.V., akademik; CHERKASSKIY, Ye.S.; PROTSENKO, Ye.P.; MAZIN, V.V.;
LYADOVA, G.L.; KILIMNIK, Ye.Ye.

Effect of the insecticidal and fungicidal repellent dust
(IFRD-1) on cabbage clubroot. Dokl. AN SSSR 143 no.4:972-
975 Ap '62. (MIRA 15:3)

1. Glavnyy botanicheskiy sad AN SSSR i Opytno-pokazatel'nyy
sovkhoz im. Mossoveta Lyuberetskogo rayona Moskovskoy oblasti.
(Clubroot) (Fungicides)

TSITSIN, N.V., akademik; CHERKASSKIY, Ye.S., prof.; BUSHCHIK, T.N., kand.
biolog.nauk; SHMAL'KO, V.F., kand.sel'skokhoz.nauk;
LYADOVA, G.L., agronom; KILIMNIK, Ye.Ye., agronom;
BELYAYEVA, A.S., agronom

Preparation for controlling the cabbage maggot. Zashch.
rast. ot vred. i bol. 7 no.7:33-34 JI '62. (MIRA 15:11)

1. Glavnyy botanicheskiy sad AN SSSR. Oporno-pokazatel'nyy
sovkhoz imeni ~~Moskova~~ ~~1~~ Sovkhoz imeni Gor'kogo.
(Moscow Province--Cabbage maggot--Extermination)
(Insecticides)

TSITSIN, Nikolai Vasil'evich, 1898-

Winter and perennial wheat problems; wheat hybrids. Moskva, Sel'khozgiz, 1955. 99 p.
(53-56512)

88191.W5T7

TSITSIN, N. V.

"Innovations in Agriculture", Issue 1, 1937

Doklady Akademii Nauk SSSR, Vol 59, No 7, Mar 1948, pp1341-44
U-3398

TSITSIN, NIKOLAI VASIL'EVICH, 1896-

Forage plants of the Western Siberian chernozem belt

Omsk, Omskoe obl. gos. izd-vo, 1939

305 p.

Pyrethrum cenerarifolium

Moskva Moskovskii rabochii, 1941.

38 p.

TSITSIN, NIKOLAI VASIL'EVICH, 1898-

The All-Soviet Agricultural Exhibition of 1941

Moskva Gospolitizdat, 1941.

94 p.

TSITSIN, Nikolai Vasil'evich, 1898-

Supplementary plant resources in the service of our native land Moskva, Izd-vo Akademii nauk SSSR, 1944. 58 p. (Akademiia nauk Soiuza SSR. Nauchno-populiarnaia seriia) (50-40904)

SB108.R9T8

1. Botany, Economic. 2. Botany- Russia.

TSITSIN, N. V. , Academician

"Perspective Selections in Creation of Winter Crops, Stabilized for Winter Planting"

Vestnik Akademii Nauk SSSR, No 1-6, 1944 (Tab Con)

U-1551

TSITSIN, N. V.

TSITSIN, N. V. (Academician, Laureate of the Stalin Prize) and
CHERKASSKIY, E. S. (Senior Scientific Coworker, Candidate of Veter-
inary Sciences, Academician N. V. Tsitsin's Laboratory of Plant Poisons).
Classification of wood-resin creclins, their mass use in mange diseases
of animals and the effect on the quality of wool.

Source: Veterinariya; 4-5; April/May 1945 uncl
TAECON

TSITSIN, N.V.

RT-790 [Grain problem--basic link in the agricultural system] Zernovaya problema--
osnovnoe zveno v sisteme sel'skogo khoziaistva. Moscow. 1947, 23 pp.

TSITSIN, Nikolai Vasil'evich, ed.

Methods for testing the varieties of field crops. Moskva, Sel'khozgiz, 1947. 330 p.

TSITSIN, N. V. (ed.) & OTHERS

RT-1065 (Handbook on the approval of agricultural crops. I. Grain crops (wheat, rye, barley, oats) Extracted from:

Rukovodstvo po Aprobatsii Sel'skokhoziaistvennykh Kul'tur. I. Zerno iye Kul'tury
(oshenitsa, rozh', iachmen', oves). 5th ed., rev. 2nd., Moscow, 1947. 639 pages.
(Translation does not include illustrations).

1947, No. 8; 1948, No. 8.

Mem., Scientific Research Institute of Grain Agriculture, Makhinovka (-1947-)

"The *Rubus Flagellaris* Will. and *Rubus Saxatilis* L. Hybrid," Bot. An., 57,
No. 8, 1947

TSITSIN, N.V.

RT-791 Methods of creating new cultivated plants (Distant hybridization) Puti
sozdaniia novykh kul'turnykh rastenii (Otdalennaiia gibrizatsiia). Moscow. 1943,
22 pp. (Translation does not include illustrations).

TSITSIN, N.V.

Tsitsin, N.V. "For the cooperation of the botanical gardens of the USSR,"
Byulleten' Glav. Botan. sada, Issue 1, 1948, p. 3-6

SO: U-2888, Letopis Zhurnal'Nykh Statey, No. 1, 1949

TSITSIN, N. V.

22414. Tsitsin, N. V. BOTANICHESKIYE SADY SOVETSKOGO SOYUZA NA NOVOM ETAPE. BYULLETEN'
GLAV. BOTAN. SADA, VYP. 2, 1949, S. 3-9

SO: LETOPIS' No. 30, 1949

TSITSIN, N. V.

USSR/Biology (Agriculture) - Hybridization Sep 51

"Wheat-Quack [*Agropyrum*] Hybrids," N. V. Tsitsin,
Main Bot Garden, Acad Sci USSR

"Byul Glav Bot Sada" No 9, pp 3-12

By crossing wheat with quack grass and controlled modification of the resulting plants, the high resistance of perennial quack grass was utilized in developing both winter and summer varieties of wheat which are resistant to adverse climatic conditions, plant diseases, etc., and give unusually high yields. Using this method, perennial varieties of wheat were developed and very high yields

206T2

USSR/Biology (Agriculture) - Hybridization Sep 51
(Contd)

achieved without resultant drooping of the ears. Herein, properties of hybrids with "blue" *Agropyrum* [*A. glaucum*] ("599," "186," etc.). Reference is made to bushy hybrid varieties of this type, information on which will be published later.

206T2

TSITSIN, N. V.

Rye

Ramose winter rye. Biul. Glav. bot. sada. No. 10, 1951.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

ABRIN, NIKOLAI VASIL'EVICH, 1917 -

Wild growing plants in the service of the national economy; public lecture.

Moskva, Znanie, 1952.

22 p.

1. TSITSIN, N. V., PETROVA, K.A.
2. USSR (600)
4. Grasses
7. Elymus and its biological characteristics, Sov.agron. 10 no. 11, 52

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

1. TSITSIN, H. V.

2. USSR (600)

4. Grain

7. Prospects for productiveness of grain crops. Biul. Glav. bot. sada no 12 '52

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

1. TSITSIN, N. V., Acad.
2. USSR (600)
4. Botanical Gardens - Congresses
7. Results of the conference of the representatives of botanical gardens of the U.S.S.R.
Vest. AN SSSR 22, no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

USSR/Biology - Botany, Medicinal
Plants Jun 52

"The Largest Laboratory of Soviet Botany," Acad
N. V. Tsitsin, Dir, Main Bot Garden Moscow, Acad
Sci USSR

"Priroda" Vol 41, No 6, pp 33-41

Describes the Main Bot Garden as it is at present and as it will be after projected expansion has taken place. In describing work being done at the Garden, mentions that bearing of fruit by hornbeams (a plant which is insufficiently acclimated in Moscow and consequently

22915

does not bear fruit there) could be induced by constricting the trunk with a wire. Refers to work on the acclimatization of other plants. Says that work on the cultivation of Far-Eastern actinidia, ginseng, and Schizandra chinensis has been begun.

22915

TSITSIN, N. V.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757120008-0

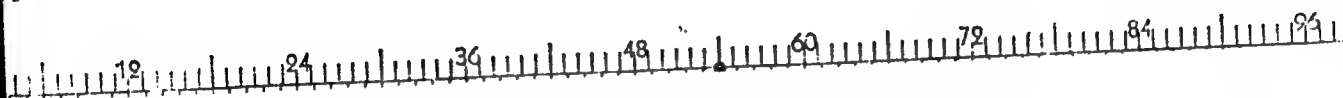
APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757120008-0"

TSITSIN, N.V.; NAZAROVA, M.Z.

Experiments with remote vegetative-sexual hybridization of plants.
Izvest. Akad. Nauk S.S.S.R., Ser.biol. '53, 20-35. (MLRA 6:3)
(CA 47 no.15:7602 '53)

1. Glavnyy Botan. Sad, Akad. Nauk S.S.S.R.



TSITSIN, N.

"Largest botanical laboratory of the Soviet Union. Tr. from the Russian" (.67) PRIRODA
(Bulgarska Akademiia Na Naukite) Sofiya Vol 2 No 5 Sept/Oct 1953

SO: East European Accessions List Vol No 8 Aug 1954

TSITSIN, N.V., akademik.

Remote hybridization of plants. Est. v shkole no.3:8-17 My-Je '53.
(MLBA 6:5)
(Hybridization, Vegetable)

TSITSIN, N.V.

Tasks of Soviet botanical gardens in the development of science and
in increasing the productive forces of the country. *Biul.Glav.bot.*
sada no.15:5-17 '53. (MIRA 9:1)

1.Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Botany, Economic) (Botanical gardens)

TSITSIN, N.V., akademik.

• Wild plants which are of use to the national economy. Priroda 41 no.7:22-
32. JI '53. (MLRA 6:6)

(Botany, Economic)

TSITSIN, N.V., akademik.

Tasks of biological science in view of the decisions of the September plenum
of the Central Committee of the Communist Party of the Soviet Union. Pri-
roda 42 no. 11:3-10 N '53. (MLRA 6:11)
(Stock and stockbreeding) (Agriculture) (Biology)

USSR / Cultivated Plants. Fruit Trees. Small
Fruit Trees.

M-7

Abs Jour: Ref Zhur-Biol., 1958, No 16, 73162.

Author : Tsitsugin, I. V.

Inst : Not given.

Title : The Chokeberry - A Valuable Berry Bush.

Orig Pub: Sad i ogorod, 1958, No 2, 67.

Abstract: No abstract.

Card 1/1

141

TSITSYN, N.V., akademik; KUZNETSOV, V.V.

Growth rate in the red alga *Rhodomenia palmata* L. on the littoral of the Bering Sea. Dokl. AN SSSR 91 no.3:663-665 J1 '53. (MLRA 6:7)

1. Murmanskaya biologicheskaya stantsiya Akademii nauk SSSR (for Kuznetsov).
2. Akademiya nauk SSSR (for TSitsyn).
(Bering Sea--Algae) (Algae--Bering Sea)

TSITSYN, N.V., akademik; KONSTANTINOV, N.N.

Certain characteristics of the biology of the black pepper (*Piper nigrum* L.).
Dokl.AN SSSR 91 no.3:667-670 JI '53. (MLHA 6:7)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR (for Konstantinov). 2. Akademiya nauk SSSR (for TSitsyn). (Pepper)